

**REMARKS**

Applicants herein add new claims 28-31. Support for new claims 28-31 can be found, for example, on page 6, lines 18-28 of the written disclosure. Entry and consideration of the new claims is respectfully requested. An Excess Claims Fee Payment Letter is being concurrently filed with this Amendment.

Claims 1, 2 and 4-31 are all the claims presently pending in the application.

1. Claims 1, 2, 5, 12-15, 26 and 27 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ikata *et al.* (U.S. Patent No. 5,786,738) in view of Sholley *et al.* (U.S. Patent No. 6,256,774). Applicants traverse the rejection of claims 1, 2, 5, 12-15, 26 and 27, and insofar as the rejection applies to new claims 28-31, for at least the reasons discussed below.

The initial burden of establishing that a claimed invention is *prima facie* obvious rests on the USPTO. *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). To make its *prima facie* case of obviousness, the USPTO must satisfy three requirements:

- a). The prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated to artisan to modify a reference or to combine references. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).
- b). The proposed modification of the prior art must have had a reasonable expectation of success, and that determined from the vantage point of the artisan at the time the invention was made. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209 (Fed.

Cir. 1991).

- c). The prior art reference or combination of references must teach or suggest all the limitations of the claims. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991); *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, the nature of a problem to be solved. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). Alternatively, the motivation may be implicit from the prior art as a whole, rather than expressly stated. *Id.* Regardless if the USPTO relies on an express or an implicit showing of motivation, the USPTO is obligated to provide particular findings related to its conclusion, and those findings must be clear and particular. *Id.* A broad conclusionary statement, standing alone without support, is not “evidence.” *Id.*; *see also, In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001).

In addition, a rejection cannot be predicated on the mere identification of individual components of claimed limitations. *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *Id.*

The Examiner acknowledges that Ikata *et al.* fail to teach or suggest the RFA interconnection patterns/circuit and terminals being the radio frequency antenna. The Examiner asserts that the disclosure of Sholley *et al.* provides the necessary teaching to overcome the acknowledged deficiencies of Ikata *et al.*

With respect to independent claims 1 and 13, the combination of Ikata *et al.* and Sholley *et al.* fails to teach or suggest a radio frequency antenna that comprises a portion of an integrated circuit package, and wherein the radio frequency antenna is excluded from the integrated circuit die. At best, the combination of Ikata *et al.* and Sholley *et al.* discloses an assembly with an electromagnetic shield enclosing amplifying circuit, wherein the amplifying circuit might use phase matching circuit patterns to match an external antenna impedance. It is fairly clear that the combination of Ikata *et al.* and Sholley *et al.* fails to disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, since one reference discloses that the radio frequency antenna is not part of the integrated circuit package, and the other ignores the question completely. *See* col. 5, lines 24-36 of Ikata *et al.*; *see* Sholley *et al.* generally. In column 1, lines 30-55, Sholley *et al.* describe small electrical leads from a component or an interconnection that might serve as an unwanted full wave or half-wave antenna and radiate MMW energy from that leak into open space as a form of noise. Other electrical leads in the circuit could likewise act as a full-wave or half-wave receiving antenna, picking up the foregoing radiation. This reference to potential leakage from metal wiring does not mean that Sholley *et al.* disclose that the wiring is a RF antenna for radiating a specific signal with a good SNR and having the correct impedance and frequency characteristic. In fact, Sholley *et al.* suggest that such a result would be undesirable. *See, e.g.*, col. 1, lines 47-48 of Sholley *et al.* Critically, Sholley *et al.* do not describe or suggest that the leads or interconnections are part of a package that houses a RF circuit, nor does the Examiner cite any portion of Sholley *et al.* that discloses a RF antenna comprising a portion of the package of the packaged integrated circuit.

Thus, the combination clearly does not teach or suggest that a radio frequency antenna that comprises a portion of the package of an integrated circuit package, as recited in claim 1.

Applicants believe that the Examiner has not met the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Since neither Ikata *et al.* nor Sholley *et al.* disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, Applicants believe that one of skill in the art would not be motivated to combine the two references. *In re Dembiczak* and *In re Zurko* require the Examiner to provide particularized facts on the record as to why one of skill would be motivated to combine the two references. Without a motivation to combine, a rejection based on a *prima facie* case of obviousness is improper. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999). The Examiner must make specific factual findings with respect to the motivation to combine references. *In re Lee*, 277 F.3d 1338, 1342-44 (Fed. Cir. 2002). Here, other than a conclusionary statement that it would have been obvious to combine the references based on an alleged disclosure in Sholley *et al.* regarding interconnection patters/circuits and terminals, there have been no objective findings on the record as to motivation. Critically, both references lack any teaching about the desirability of a radio frequency antenna that comprises a portion of the package of an integrated circuit package. While the Examiner alleges that Sholley *et al.* discloses a RF antenna, the cited section of Sholley *et al.* (col. 1, lines 45-55) discusses interconnecting terminals and wires and the RF problems associated with types of component

connections. No RF antennas that comprise a portion of a packaged module are taught or suggested in Sholley *et al.* Thus, Applicants believe that the Examiner has not met the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Ikata *et al.* and Sholley *et al.* fails to disclose all of the claimed elements as arranged in claims 1 and 13. Therefore, the combination of Ikata *et al.* and Sholley *et al.* clearly cannot render the present invention obvious as recited in claims 1 and 13. Thus, Applicants believe that claims 1 and 13 are allowable, and further believe that claims 1, 2, 5, 12-15, 26, 27 and new claims 28-31 are allowable as well, at least by virtue of their dependency from claims 1 and 13, respectively. Applicants respectfully request that the Examiner withdraw the § 103(a) rejection of claims 1, 2, 5, 12-15, 26 and 27.

2. Claim 4 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ikata *et al.* in view of Sholley *et al.* and in further view of Masahito (Japanese Patent No. Heisei 8-250913). Applicants traverse the rejection of claim 4 for at least the reasons discussed below.

The Examiner acknowledges that the combination of Ikata *et al.* and Sholley *et al.* fails to teach or suggest disposing a radio frequency antenna on a metal frame of an integrated circuit package. *See* page 7 of the September 24, 2003 Non-Final Office Action. The Examiner asserts that the disclosure of Masahito allegedly supplies the necessary disclosure to overcome the acknowledged deficiencies of the combination of Ikata *et al.* and Sholley *et al.* Masahito

discloses, *inter alia*, a MMIC package comprising an antenna (201) and an amplifying circuit (202) enclosed in a cavity in an airtight case (204). The case has metal lining the cavity *enclosing* the antenna and amplifying circuit. *See* Fig. 13 of Masahito.

The combination of Ikata *et al.*, Sholley *et al.* and Masahito fails to teach or suggest a radio frequency antenna that comprises a portion of an integrated circuit package, as recited in claim 1 and included in claim 4. At best, the combination of Ikata *et al.*, Sholley *et al.* and Masahito discloses an assembly with a case *enclosing* an antenna and an amplifying circuit, wherein the amplifying circuit might use phase matching circuit patterns to match the antenna impedance. It is fairly obvious that the combination of Ikata *et al.*, Sholley *et al.* and Masahito fails to disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, since all the references disclose that the radio frequency antenna is not part of the integrated circuit package. *See* col. 5, lines 24-36 of Ikata *et al.*; col. 1, lines 30-55 of Sholley *et al.*; antenna (201) shown in Fig. 13 of Masahito. Furthermore, the Examiner alleges that Masahito discloses the placement of a radio frequency antenna on a metal frame, and further alleges that reference numeral 203 teaches this feature. *See* page 7 of the November 24, 2003 Non-Final Office Action. Reference numeral 203 in Masahito actually refers to a terminal that pierces the airtight case (204), and there is no discussion in Masahito that the terminal (203) is a radio frequency antenna. Furthermore, assuming *arguendo* that the antenna (201) is mounted on a metal frame, the metal frame does not comprise a portion of the integrated circuit package. The combination clearly does not teach or suggest that a radio frequency antenna comprising a portion of the package of an integrated circuit package, as recited in claim 1 and

included in claim 4 by virtue of dependency. Thus, Applicants believe that the Examiner has not met the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Since neither Ikata *et al.*, Sholley *et al.* nor Masahito disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, Applicants believe that one of skill in the art would not be motivated to combine the three references. Here, other than a conclusionary statement that it would have been obvious to combine the references for connectivity reasons, there have been no objective findings on the record as to motivation. Critically, all the references lack any teaching about the desirability of a radio frequency antenna that comprises a portion of the package of an integrated circuit package. Thus, Applicants believe that the Examiner has not met the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Ikata *et al.*, Sholley *et al.* and Masahito fails to disclose all of the claimed elements as arranged in claim 1, and included via dependency in claim 4. Therefore, the combination of Ikata *et al.*, Sholley *et al.* and Masahito clearly cannot render the present invention obvious as recited in claim 4. Thus, Applicants believe that claim 4 is allowable, and respectfully request that the Examiner withdraw the § 103(a) rejection of claim 4.

3. Claims 6-8 and 16-18 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ikata *et al.* in view of Sholley *et al.* and in further view of Masahito, Koichi

(Japanese Patent No. Showa 63-1818505) and Yoshitaka (Japanese Patent No. Heisei 6-085530). Applicants traverse the rejection of claims 6-8 and 16-18 for at least the reasons discussed below.

Claims 6-8 depend from claim 1 via claim 5, and therefore include all the recitations of claim 1 by virtue of their dependency.

The Examiner acknowledges that the combination of Ikata *et al.* and Sholley *et al.* fails to disclose a metal pattern that is a metal slot pattern. *See* page 8 of the September 24, 2003 Non-Office Action. The Examiner alleges that the disclosures of Koichi and Yoshitaka supply the necessary disclosure to overcome the acknowledged deficiencies of the combination of Ikata *et al.* and Sholley *et al.* Koichi discloses, *inter alia*, a S-shaped slot antenna having a cavity resonator. *See* Abstract of Koichi. Yoshitaka discloses, *inter alia*, a micro-strip antenna. *See* Abstract of Yoshitaka.

As a threshold matter, the Examiner appears to allege that Ikata *et al.* discloses planar metal patterns for a radio frequency antenna, *i.e.*, “maze-shape metal patterns.” *See* page 8 of the September 24, 2003 Non-Office Action. As discussed above at length with respect to the § 103(a) rejection of claim 1, the phase matching circuit patterns (37a-37b) are attached to an *external* antenna through an external connection terminal (36c). *See* col. 5, lines 24-36 of Ikata *et al.* There is no disclosure in Ikata *et al.* that the phase matching circuit patterns (37a-37b) somehow function as radio frequency antennas.

The combination of Ikata *et al.*, Sholley *et al.*, Koichi and Yoshitaka fails to teach or suggest a radio frequency antenna that comprises a portion of an integrated circuit package, as recited in claim 1 and included in claims 6-8 via dependency. At best, the combination of Ikata



*et al.*, Sholley *et al.*, Koichi and Yoshitaka discloses an assembly with an electronic circuit, wherein the electronic circuit might use phase matching circuit patterns to match the impedance of an external antenna mounted elsewhere. The combination of Ikata *et al.*, Sholley *et al.*, Koichi and Yoshitaka fails to disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, since all the references disclose that the radio frequency antenna is not part of the integrated circuit package. *See* col. 5, lines 24-36 of Ikata *et al.*; col. 1, lines 30-55 of Sholley *et al.*; Abstracts of Koichi and Yoshitaka. While Koichi and Yoshitaka disclose antenna designs, when they are combined with Ikata *et al.* and Sholley *et al.*, however, there is no disclosure of where to locate the antenna relative to a ground plane, an integrated circuit die and the integrated circuit package. The combination clearly does not teach or suggest a radio frequency antenna comprising a portion of the package of an integrated circuit package, as recited in claim 1 and included in claims 6-8 by virtue of dependency. Thus, Applicants believe that the Examiner has not met the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Since neither Ikata *et al.* nor Sholley *et al.* nor Koichi nor Yoshitaka disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, Applicants believe that one of skill in the art would not be motivated to combine the references. Other than a conclusionary statement that it would have been obvious to combine the references, there have been no objective findings on the record as to motivation. Critically, all the references lack any teaching about the desirability of a radio frequency antenna that comprises a portion of the package of an integrated circuit package. The Examiner has discussed at length

that the recited antenna parameters, alleging that such parameters fall within the ambit of routine experimentation and optimization. However, such analysis does not provide any motivation to combine the references, since neither of the references disclose the desirability of a radio frequency antenna that comprises a portion of the integrated circuit package. Applicants believe that the Examiner has not met the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Ikata *et al.*, Sholley *et al.*, Koichi and Yoshitaka fails to disclose all of the claimed elements as arranged in claim 1, and included via dependency in claims 6-8. Therefore, the combination of Ikata *et al.*, Sholley *et al.*, Koichi and Yoshitaka clearly cannot render the present invention obvious as recited in claims 6-8. Thus, Applicants believe that claims 6-8 are allowable, and respectfully request that the Examiner withdraw the § 103(a) rejection of claims 6-8.

Claims 16-18 depend from claim 13 via claim 15, and therefore include all the recitations of claim 13 by virtue of their dependency.

Claims 16-18 have similar recitations as claims 6-8, and Applicants believe that claims 16-18 are allowable for at least the same reasons as claims 6-8, namely, the lack of disclosure by the combination of Ikata *et al.*, Sholley *et al.*, Koichi and Yoshitaka with respect to a radio frequency antenna that comprises a portion of an integrated circuit package. Applicants believe that claims 16-18 are allowable, at least by virtue of their dependency from claim 13, and respectfully request that the Examiner withdraw the § 103(a) rejection of claims 16-18.

4. Claims 9-11 and 23-25 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ikata *et al.* in view of Sholley *et al.* and in further view of Houghton *et al.* (U.S. Patent No. 6,282,095). Applicants traverse the rejection of claims 9-11 and 23-25 for at least the reasons discussed below.

Claims 9-11 depend from claim 1, and therefore include all the recitations of claim 1 by virtue of their dependency.

The Examiner acknowledges that the combination of Ikata *et al.* and Sholley *et al.* fails to disclose a ball grid array connection. *See* page 9 of the September 24, 2003 Non-Office Action. The Examiner asserts that Houghton *et al.* allegedly supplies the necessary disclosure to overcome the acknowledged deficiencies of the combination of Ikata *et al.* and Sholley *et al.* Houghton *et al.* disclose, *inter alia*, several types of connectors, such as ball grid arrays, for electrically connecting integrated circuits to printed circuit wiring. *See* col. 5, lines 11-23 of Houghton *et al.*

The combination of Ikata *et al.*, Sholley *et al.* and Houghton *et al.* fails to teach or suggest a radio frequency antenna that comprises a portion of an integrated circuit package, and wherein the radio frequency antenna is excluded from the integrated circuit die, as recited in claim 1 and included in claims 9-11 via dependency. At best, the combination of Ikata *et al.*, Sholley *et al.* and Houghton *et al.* discloses an assembly with an electronic circuit, wherein the electronic circuit might use phase matching circuit patterns to match the impedance of an external antenna mounted elsewhere, and uses other types of connectors as well. The combination of Ikata *et al.*, Sholley *et al.* and Houghton *et al.* fails to disclose a radio frequency

antenna that comprises a portion of the package of an integrated circuit package, since one reference discloses that the radio frequency antenna is not part of the integrated circuit package, and the other reference discloses the undesirability of a strip-type antenna in an integrated circuit. *See* col. 5, lines 24-36 of Ikata *et al.*; col. 1, lines 51-53 of Houghton *et al.* The combination clearly does not teach or suggest a radio frequency antenna comprising a portion of the package of an integrated circuit package, as recited in claim 1 and included in claims 9-11 by virtue of dependency. Applicants believe that the Examiner has not met the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Since neither Ikata *et al.* nor Sholley *et al.* nor Houghton *et al.* disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, Applicants believe that one of skill in the art would not be motivated to combine the references. Other than a conclusionary statement that it would have been obvious to combine the references with respect to connection technology, there have been no objective findings on the record as to motivation with respect to an antenna. Critically, the references lack any teaching about the desirability of a radio frequency antenna that comprises a portion of the package of an integrated circuit package, and one reference even discusses the undesirability of such an antenna. Applicants believe that the Examiner has not met the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Ikata *et al.*, Sholley *et al.* and Houghton *et al.* fails to disclose all of the claimed elements as arranged in claim 1, and included via dependency in claims 9-11. Therefore, the combination of Ikata *et al.*,

Sholley *et al.* and Houghton *et al.* clearly cannot render the present invention obvious as recited in claims 9-11. Thus, Applicants believe that claims 9-11 are allowable, and respectfully request that the Examiner withdraw the § 103(a) rejection of claims 9-11.

Claims 23-25 depend from claim 13, and therefore include all the recitations of claim 13 by virtue of their dependency.

Claims 23-25 have similar recitations as claims 9-11, and Applicants believes that claims 23-25 are allowable for at least the same reasons as claims 9-11, namely, the lack of disclosure by the combination of Ikata *et al.*, Sholley *et al.* and Houghton *et al.* with respect to a radio frequency antenna that comprises a portion of an integrated circuit package. Applicants believe that claims 23-25 are allowable, at least by virtue of their dependency from claim 13. Applicants respectfully request that the Examiner withdraw the § 103(a) rejection of claims 23-25.

5. Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ikata *et al.* in view of Sholley *et al.* and in further view of Masahito and Moskowitz *et al.* (U.S. Patent No. 5,528,222). Applicants traverse the rejection of claims 21 and 22 for at least the reasons discussed below.

Claim 21 depends from claim 13, and therefore includes all the recitations of claim 13 by virtue of its dependency.

The Examiner acknowledges that the combination of Ikata *et al.* and Sholley *et al.* fails to teach or suggest encapsulating the integrated circuit die. *See* page 11 of the September 24, 2003 Non-Final Office Action. The Examiner asserts that Masahito allegedly supplies the necessary

disclosure to overcome the acknowledged deficiencies of the combination of Ikata *et al.* and Sholley *et al.* Masahito discloses, *inter alia*, a MMIC package comprising an antenna (201) and an amplifying circuit (202) enclosed in a cavity in an airtight case (204). The case has metal lining the cavity enclosing the antenna and amplifying circuit. *See* Fig. 13 of Masahito.

The combination of Ikata *et al.*, Sholley *et al.* and Masahito fails to teach or suggest a radio frequency antenna that comprises a portion of an integrated circuit package, and wherein the radio frequency antenna is excluded from the integrated circuit die, as recited in claim 13 and included in claim 21. At best, the combination of Ikata *et al.*, Sholley *et al.* and Masahito discloses an assembly with a case enclosing an antenna and an amplifying circuit, wherein the amplifying circuit might use phase matching circuit patterns to match an external antenna impedance. The combination of Ikata *et al.*, Sholley *et al.* and Masahito fails to disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, since both references disclose that the radio frequency antenna is not part of the integrated circuit package. *See* col. 5, lines 24-36 of Ikata *et al.*; col. 1, lines 30-55 of Sholley *et al.*; antenna (201) shown in Fig. 13 of Masahito. Furthermore, the Examiner alleges that Masahito discloses the placement of a radio frequency antenna on a metal frame, and further alleges that reference numeral 203 teaches this feature. *See* page 11 of the September 24, 2003 Non-Final Office Action. Reference numeral 203 in Masahito actually refers to a terminal that pierces the airtight case (204), and there is no discussion in Masahito that the terminal (203) is a radio frequency antenna. The combination clearly does not teach or suggest that a radio frequency antenna comprising a portion of the package of an integrated circuit package, as recited in claim 13 and

included in claim 21 by virtue of dependency. Applicants believe that the Examiner has not met the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Since neither Ikata *et al.* nor Sholley *et al.* nor Masahito disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, Applicants believe that one of skill in the art would not be motivated to combine the references. Here, other than an incorrect statement that it would have been obvious to combine the references based on forming a RFA on a conventional metal lead frame, there have been no objective findings on the record as to motivation with respect to an antenna. Critically, the references lack any teaching about the desirability of a radio frequency antenna that comprises a portion of the package of an integrated circuit package. Applicants believe that the Examiner has not met the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Ikata *et al.*, Sholley *et al.* and Masahito fails to disclose all of the claimed elements as arranged in claim 13, and included via dependency in claim 21. Therefore, the combination of Ikata *et al.*, Sholley *et al.* and Masahito clearly cannot render the present invention obvious as recited in claim 21. Thus, Applicants believe that claim 21 is in condition for allowance, and respectfully request that the Examiner withdraw the § 103(a) rejection of claim 21.

Claim 22 depends from claim 1 via claim 21, and therefore includes all the recitations of claim 1 by virtue of its dependency.

The Examiner acknowledges that the combination of Ikata *et al.* and Sholley *et al.* fails to teach or suggest encapsulating the integrated circuit die. *See* page 12 of the September 24, 2003

Non-Final Office Action. The Examiner asserts that Masahito allegedly supplies the necessary disclosure to overcome the acknowledged deficiencies of the combination of Ikata *et al.* and Sholley *et al.* Moskowitz *et al.* discloses, *inter alia*, conventional packaging techniques. See Figs. 1A and 1B of Moskowitz *et al.*

The combination of Ikata *et al.*, Sholley *et al.* and Moskowitz *et al.* fails to teach or suggest a radio frequency antenna that comprises a portion of an integrated circuit package, and wherein the radio frequency antenna is excluded from the integrated circuit die, as recited in claim 13 and included in claim 22. At best, the combination of Ikata *et al.*, Sholley *et al.* and Moskowitz *et al.* discloses an assembly with a case enclosing an antenna and an amplifying circuit, wherein the amplifying circuit might use phase matching circuit patterns to match an antenna impedance. The combination of Ikata *et al.*, Sholley *et al.* and Moskowitz *et al.* fails to disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, since two of the references disclose that the radio frequency antenna is not part of the integrated circuit package. See col. 5, lines 24-36 of Ikata *et al.*; col. 1, lines 30-55 of Sholley *et al.* Moskowitz *et al.* clearly disclose that the antenna is not part of the package of an integrated circuit package, but rather, is enclosed within other packaging. See Fig. 3 of Moskowitz *et al.* Thus, Applicants believe that the Examiner has not met the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Since neither Ikata *et al.* nor Sholley *et al.* nor Moskowitz *et al.* disclose a radio frequency antenna that comprises a portion of the package of an integrated circuit package, Applicants believe that one of skill in the art would not be motivated to combine the references.



AMENDMENT UNDER 37 C.F.R. § 1.111  
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Critically, all the references lack any teaching about the desirability of a radio frequency antenna that comprises a portion of the package of an integrated circuit package. Thus, Applicants believe that the Examiner has not met the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Ikata *et al.*, Sholley *et al.* and Moskowitz *et al.* fails to disclose all of the claimed elements as arranged in claim 13, and included via dependency in claim 22. Therefore, the combination of Ikata *et al.*, Sholley *et al.* and Moskowitz *et al.* clearly cannot render the present invention obvious as recited in claim 22. Thus, Applicants believe that claim 21 is allowable, and respectfully request that the Examiner withdraw the § 103(a) rejection of claim 22.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111  
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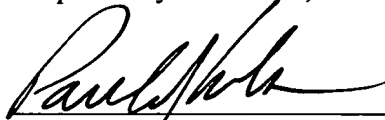
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